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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/739,432	12/18/2003	Lawrence P. Ziehr	GP-301876	9272

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EXAMINER

FORD, JOHN K

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 10/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/739,432

Applicant(s)

ZIEHR ET AL.

Examiner

John K. Ford

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/14/06
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 16-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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Applicant's election of Invention I, claims 1-15, without traverse, is acknowledged. While the examiner does not wish to sound harsh, applicants are reminded of their respective duties of disclosure and counsel is requested to follow-up with each of the inventors to see if all other relevant prior art (other than the Zeng et al. patent, which names one of the current inventors, Lawrence Ziehr) has been disclosed to the PTO. The examiner's time to search applications is extremely limited and the time spent finding the Zeng patent could have been better spent searching for other claimed features.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Zeng et al (USP 6,094,930).

A system bearing great resemblance to the present one was apparently developed at Chrysler when Mr. Ziehr was an employee there. The ports 102 and 106 are both bidirectional, which means that the flow through the valve 106 is bidirectional. It is the examiner's contention with respect to the 102(b) rejection that any pressure reducing bidirectional valve such as disclosed at 106 inherently has some sort of orifice (in the broadest sense of this word: i.e. a mouth or vent, opening).

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Zeng et al (USP 6,094,930) and any one of the Derwent Acc-no. 2003-164410, Cummings et al (GMC assigned 5,966,960) or Voorhis (USP 5,706,670).

Zeng is explained above. To have substituted any one of the three bidirectional orifices of Derwent Acc-no. 2003-164410, Cummings et al (GMC assigned 5,966,960) or Voorhis (USP 5,706,670) in place of the pressure reducing device 116 of Zeng would have been obvious to one of ordinary skill in the art to achieve an advantageously inexpensive, small and reliable system.

Claims 5, 6, 12, 13, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art (Zeng alone or the combined teachings of Zeng et al (USP 6,094,930) and any one of the Derwent Acc-no. 2003-164410, Cummings et al (GMC assigned 5,966,960) or Voorhis (USP 5,706,670) as applied to claim 1 above, and further in view of Numazawa (USP 5,497,941).

In Figures 14 and 15 Zeng teaches using the waste heat from the batteries to augment the performance of the refrigerant based heating when it is operating in a mode to heat the passenger compartment. Numazawa (USP 5,497,941) teaches in Figure 7 using the waste heat of engine coolant (passing through heat exchanger 11) to heat refrigerant to augment heating of the passenger compartment. The passenger compartment is heated by refrigerant heat exchanger 14 and coolant heat exchanger 4. To have heated heat exchanger 228 of Zeng with engine coolant waste heat rather than battery waste heat when adapting it to operate in a hybrid electric vehicle rather than an all-electric vehicle would have been obvious to one of ordinary skill in the art. Likewise to have substituted a coolant based heater such as shown at 4 in Numazawa Figure 7 in place of electric heater 62 of Zeng would have been obvious to one of ordinary skill in the art when adapting it to operate in a hybrid electric vehicle rather than an all-electric vehicle.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claims 5, 6, 12, 13, 14 and 15 above, and further in view of Telesz (USP 6,606,879) or Knowles et al (USP 5,265,438).


To have modified the prior art used to reject claims 5 and 6 with a suction line accumulator such as disclosed by Telesz or Knowles to advantageously protect the

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compressor from ingesting liquid refrigerant and breaking would have been obvious of one of ordinary skill in the art.

Claims 8-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims assuming that no more relevant prior art is forthcoming from applicants.

Any inquiry concerning this communication should be directed to John K. Ford at telephone number 571-272-4911.



John K. Ford
Primary Examiner